

Peucedanum arenarium subsp. *arenarium* – a critically endangered species of the Slovak flora (morphometry, distribution, biology)

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Abstract: The species *Peucedanum arenarium* WALDST. et KIT. has a single contemporary occurrence in the Czech and Slovak Republics at present, on several microlocalities on the south-western and southern slopes of Sandberg hill (National Nature Reserve Devínska Kobyla) near Bratislava – municipal part Devínska Nová Ves. The vegetation with this species belongs to the class *Festuco-Brometea*, a closer phytosociological classification of the community is problematic. The species is a monocarpic perennial with a sterile life span of about three years. The plant comes to flower in the fourth year, produces ca 8,500 mericarps, and dies. Individual years of its development can be differentiated according to the number and diameter of leaves in the rosette at the soil level. The viable mericarps develop mainly on the circumference of the terminal inflorescences (compound umbels) of the minor branches. In laboratory conditions they germinate poorly (scarification is probably necessary).

A relatively large number of various insects was found on the plants (86 species of five orders), mostly phytophagous. The *P. arenarium* population might be endangered when fructophagous insect species (*Tingis clavicorne*, *Copium teucarii*, *Graphosoma lineatum*) enormously increase in number, as it reproduces exclusively in the generative way, by mericarps. Results of the first sketch may be used for Recovery Programme of *P. arenarium* in NNR Devínska Kobyla.

Key words: apiaceae, biology, distribution, life cycle, morphometry, reproduction, Slovakia.

Introduction

Peucedanum arenarium WALDST. et KIT., Apiaceae family, is a monoecious species with hermaphrodite flowers, hemicryptophyte, diploid, $2n = 22$ (FERÁKOVÁ & MURÍN, 1976; KUZMANOV et al., 1977; VASILYEVA et al., 1981). It is a representative of the nominate section *Peucedanum*. Flowering time July – August, reproduction exclusively generative (DOSTÁL, 1950, 1989; HLAVAČEK et al., 1984; GRULICH, 1997). Population dynamics of this monocarpic perennial has been studied by ŠERÁ & KOCIANOVÁ (2000) and ŠERÁ et al. (2000).

Peucedanum arenarium is spread mainly in the Pannonian region, vertically usually in lowland, where it is often a part of the associations of the alliance *Festuco vaginatae* Soó 1940 and other thermophilous grass-

land communities (DOSTÁL, 1950, 1989; KÁRPÁTOVÁ et al., 1961; GRULICH, 1997; FERÁKOVÁ & GRULICH, 1999). It needs sandy or dry, deeper basic soil with unclosed vegetation.

In the past its occurrence in the Czech Republic was mentioned in single locality in south Moravia, Dolnomoravský úval – Rohatec (at northwest limit of its distribution area), however at present this species is considered extinct (PROCHÁZKA, 2001). Its occurrence in the Slovak Republic was more frequent. In the past it was often found on several localities in the south-west of the territory. Now its presence is confirmed only on Sandberg hill near Devínska Nová Ves (National Nature Reserve Devínska Kobyla, further NNR), and it was included in the list of endangered taxa of the Slovak flora (FERÁKOVÁ et al., 2001). The species can be considered phytogeographically significant, as well as a